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Chad Barry Dorgan

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Intellectual Property Department
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EXAMINER

PHAM, KHANH B

ART UNIT

PAPER NUMBER

2177

DATE MAILED: 01/13/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/848,110

Applicant(s)

DORGAN ET AL.

Examiner

Khanh B. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Response to Amendment

1. The amendment filed October 23, 2003 has been entered. Claims 15-17 have been amended. Claims 18-20 are added.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. **Claims 1-7, 9-15 and 17-20 are rejected under 35 U.S.C. 102(a)** as being anticipated by Hyun et al. ("WorkPlan: Constraint-based Database for Work Package Scheduling", May 1999), hereinafter referred to as "Hyun".

As per claim 1, Hyun teaches a method of tracking building construction timing and quality comprising:

- (a) "determining tasks requiring completion during a building construction project" at page 155, Fig. 4;
- (b) "constructing at least one tracking form for the tasks, wherein each tracking form includes: at least one quality control indicator form wherein quality standards for one of the tasks are listed", "and at least one completion indicator allowing recordation of the completion status of one of the tasks, each completion indicator corresponding to one quality control indicator form" at page 157, Fig 7;

- (c) “while completing each task, completing the tracking form by verifying whether the quality standards listed on the task’s quality control indicator form are met, and recording the completion status of the task using the task’s completion indicator” at page 157, Col. 1, 2nd paragraph;
- (d) “at least periodically: compiling the completion status for the tasks, thereby obtaining a measure of the degree of completion of the building construction project; and reviewing at least some of the tasks’ quality control indicator forms versus the building construction project, thereby obtaining a measure of the degree of adherence to the quality standards listed thereon” at page 157, Col. 2 and Figs. 9-10.

As per claim 2, Hyun teaches the method of claim 1 wherein “the step of verifying whether the quality standards listed on the task’s quality control indicator form are met includes:

- (a) “recording adherence to the task’s listed quality control standards as a binary value on the task’s quality control indicator form, with the value reflecting adherence or non-adherence” at Fig 7;
- (b) “recording reasons for non-adherence to the task’s listed quality control standards on the task’s quality control indicator form” at Figs. 7 and 9.

As per claim 3, Hyun teaches the method of claim 2 wherein “the step of reviewing at least some of the tasks’ quality control indicator forms versus the building construction project includes: sampling some of the quality control indicator forms; and statistically analyzing the sampled quality control indicator forms for adherence and

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reasons for non-adherence to listed quality control standards” at page 157, Col. 2 and Figs 10.

As per claim 4, Hyun teaches the method of claim 1 wherein “the completion indicators include: binary completion indicators wherein the completion status of the corresponding task is recorded as incomplete or complete”; and continuous completion indicators wherein the completion status of the corresponding task is recorded as a value ranging between incomplete and complete” at Fig. 7.

As per claim 5, Hyun teaches the method of claim 1 wherein “at least some tasks have corresponding completion indicators which include machine-readable indicia, and wherein the recordation of the completion status of each of these tasks is performed by mechanically reading the machine-readable indicia of its completion indicator once the task is completed” at Fig. 8.

As per claim 6, Hyun teaches the method of claim 5 wherein “the machine-readable indicia encode information designating the completion of their corresponding tasks” at Fig. 8.

As per claim 7, Hyun teaches the method of claim 5 wherein “the completion indicators which include machines readable indicia are provided on the quality control indicator forms to which these completion indicators correspond” at Fig. 8.

As per claim 9, Hyun teaches the method of claim 5 wherein “the completion indicators which include machine readable indicia are provided on cards separate from the quality control indicator forms to which these completion indicators correspond, and

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wherein each card is associated with its corresponding quality control indicator form in a container” at Fig 8.

As per claim 10, Hyun teaches the method of claim 1 wherein “the completion indicators are provided on their corresponding quality control indicator forms” at Fig. 7.

As per claims 11, Hyun teaches the method of claim 1 wherein “the quality control indicator forms are assembled from a library of stock quality control indicator forms” at page 157, Col. 1.

As per claim 12, Hyun teaches the method of claim 1 wherein “the building construction project includes design, construction, and start-up phases, and wherein tracking forms are completed during each phase” at page 159, Col. 2, 5th and 6th paragraphs.

As per claim 13, Hyun teaches the method of claim 1 wherein “the building construction project includes a construction phase wherein building components are installed, and wherein at least some of the building components have tracking forms attached prior to their installation, with these tracking forms including quality control indicator forms and completion indicators relating to tasks performed during installation” at Fig. 7.

As per claim 14, Hyun teaches a method of tracking building construction timing and quality comprising:

- (a) “determining tasks requiring completion during a building construction project” at Fig. 4;

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- (b) “constructing at least one tracking form for the tasks, wherein each tracking form includes for each task: at least one quality control indicator form listing quality standards for the completion of the task” and at least one completion indicator for the task, wherein the completion indicator bears machine-readable indicia encoding the completion status of the task” at Fig. 8;
- (c) “while completing each task, recording on the task’s quality control indicator form whether the quality standards listed thereon are met; if the quality standards listed thereon are not met, recording on the task’s quality control indicator form the reasons why; recording the completion status of the task using the task’s completion indicator” at Figs. 7-8;
- (d) “at least periodically: compiling the tasks’ completion status, thereby obtaining a measure of the degree of completion of the building construction project; and reviewing at least some of the tasks’ quality control indicator forms versus the corresponding completed tasks within the building construction project, thereby obtaining a measure of the degree of adherence to the quality standards listed on the quality control indicator forms” at page 157, Col. 2 and Figs. 10.

As per claim 15, Hyun teaches the method of claim 14 wherein “one or more completion indicators are provided on their corresponding quality control indicator forms” at Fig. 7.

As per claim 17, Hyun teaches the method of claim 14, wherein “the quality control indicator forms are assembled from a library of stock quality control indicator forms” at page 157, Col. 1.

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As per claims 18, 19, Hyun teaches the method of claims 1 and 14, , wherein “completion status is recorded after verifying whether the quality standards listed on the task’s quality control indicator form are met” at Fig. 8.

As per claim 20, Hyun teaches a method of tracking building construction timing and quality comprising:

- “determining the tasks requiring completion during a building construction project” at page 155, Fig. 4;
- “constructing a tracking form for each task, wherein each tracking form includes: at least one quality control indicator form listing quality standards for any steps required for proper completion of the task” at page 157, Figs. 7-8;
- “at least one completion indicator for the task, wherein the completion indicator bears machine-readable indicia encoding the completion status of the task” at Fig. 8;
- “while completing each task, recoding on the task’s quality control indicator form whether the quality standards listed thereon are met, subsequently recording the completion status of the task using the task’s completion indicator” at page 157, Col. 1, 2nd paragraph and Fig. 7;
- “at least periodically: compiling the task’ completion status, thereby obtaining a measure of the degree of completion of the building construction project” at page 157, Col. 2 and Figs. 9-10;

“reviewing at least some of the task’s quality control indicator forms versus the corresponding completed tasked within the building construction project, thereby

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obtaining a measure of the degree of adherence to the quality standards listed on the quality control indicator forms" at page 157, Col. 2 and Fig. 9-10.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 8, 16 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Hyun as applied to claims 1-7, 9-15 and 17-20 above and in view of Finch et al. ("Auto-ID Application in Construction, March 1996), hereinafter referred to as "Finch".

As per claim 8, Hyun teaches the method of claim 5 as discussed above. Hyun teach the completion indicators at Fig. 7, but does not teach: "the completion indicators which include machine readable indicia are adhesively attachable to the quality control

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indicator forms to which these completion indicators correspond". However, Finch teaches a method for tracking and management construction project by attaching barcodes to construction documents such as drawing, orders, and requisitions (page 124, Col. 1, 3rd paragraph). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hyun's quality control form to include "machine readable indicia adhesively attachable to the form to which these completion indicators correspond" as claimed, so that the data on the form can be inputted quickly to computer using a barcode scanner, therefore reduce the data input time and eliminate possible human errors.

As per claim 16, Hyun teaches the method of claim 14 as discussed above. Hyun teaches "one or more completion indicator" at Fig. 7, but does not teach: "one or more completion indicators are provided as adhesive stickers whereupon their machine-readable indicia are provided, and the completion indicators provided as adhesive stickers are adhered to their corresponding quality control indicator forms prior to recording the completion status of their corresponding tasks. However, Finch teaches a method for tracking and management construction project by attaching barcodes to construction documents such as drawing, orders, and requisitions (page 124, Col. 1, 3rd paragraph). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hyun's quality control form to include "one or more completion indicators are provided as adhesive stickers whereupon their machine-readable indicia are provided..." as claimed, so that the data on the form can

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be quickly inputted to a computer using a barcode scanner, therefore reduce the data input time and eliminate possible human errors.

Response to Arguments

7. Applicant's arguments filed October 23, 2003 have been fully considered but they are not persuasive. The examiner respectfully traverses applicant's arguments.

Applicant argued that Hyun does not teach or suggest "quality control indicator form wherein quality standards for one of the task are listed". On the contrary, Hyun teaches a sample "quality control indicator form" at Fig. 7, including the task "Roof-Area A: Metal Desk Installation", wherein quality standard for this task are listed (i.e., "Waterproofing"). In this specific example, the quality standard of the task "Roof-Area A: Metal Desk Installation" depends upon the completion of the "Waterproofing" step. In other words, the quality of the "Roof-Area A" is not met if the roof is not "waterproofing".

Applicant argued that Hyun does not teach or suggest: "verify whether standards are met". On the contrary, Hyun teaches the step of comparing scheduled work and actual schedule at Fig. 8 in order to verify whether standard are met. For example, if the "waterproofing" is not completed as scheduled, then the quality standard for the task "Roof-Area A: Metal Desk Installation" is not met.

Regarding claims 5-7 and 9, applicant argued that Hyun does not teach: "at least some tasks have corresponding completion indicator which include machine-readable indicia..." On the contrary, Hyun teaches and electronic form to keep track of the tasks

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at Fig. 8, which includes a "machine-readable indicia" to indicate the completion of the task, reproduced below:

Remaining Work			
Is there any remaining work to be performed for this work package?		<input checked="" type="radio"/> Yes <input type="radio"/> No	
	Unit Cost	Amount	Extended Price
Laborer	\$15.00	900	13,500.00
Equipment	\$25.00	700	17,500.00
Total			31,000.00

Was this week's work for 97-303-C-1000 completed as scheduled?

☐ Yes
 ☐ No
 ☐ Yes
 ☐ No

FIG. 8. Resource Assignment Update Screen

Regarding claim 13, applicant argued that Hyun does not teach: "tracking form are attached to building component". On the contrary, Hyun teaches a tracking form for "Roof Area A" at Fig. 7 which "can be printed out and handed to the field crew" (page 157, Col. 1). The tracking form is therefore logically attached to the "Roof Area A" (i.e., contains information related to the "Roof Area A".)

In response to applicant's argument regarding claims 8 and 16 that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Particularly, at page 157, Col. 1, Hyun teaches an input form which "can be printed out and handed to the field crew" and "the crew is expected to fill out the actual number of hours they worked on each specific assignment and check

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whether or not it was completed as planned... This data is then entered into the computer by means of the Resource Assignment Update Screen". An ordinary skill in the art would recognize that this method leads to redundant work (i.e. data is entered on paper form and then re-enter in to computer manually) and may cause data entry errors. On the other hand, Finch teaches a method of using barcode in construction management to reduce data input time and eliminate possible human errors by scanning barcode instead of manual data entry (page 124, Col. 1). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made modify Hyun's teaching by employing barcode instead of manual input on the form, so that "the site operatives simply scanned the barcode at the site, thus eliminating the task of recording the information manually" (Finch, page 124, Col. 1, 3rd paragraph).

In light of the foregoing arguments, the 35 U.S.C 102 and 103 rejections are hereby sustained.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh B. Pham whose telephone number is (703) 308-7299. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)746-7240.

Khanh B. Pham
Examiner
Art Unit 2177

KBP
January 5, 2004


JEAN R. HOMERE
PRIMARY EXAMINER